SUBJECT INDEX

Acetylcellulose membrane, 224 Acetylcholine, 43,76,92,210,215 Acidic azo dyes, 144 Acidic triary1 methane dyes, 120 Acridine dyes, 124 Adenosine electrode, 99 Aerosols, 300 Air, 300 Alcohol dehydrogenase, 202 Alcohol, oxidase, 225 Alkaloids, 76 Amalgam electrodes, 159 D-Aminoacid oxidase, 225 Amino acids, 93 Ammonia and ammonium electrodes, 51,195,224,244,247 Amperometric gas sensors, 47 Amperometric measurements,79,194 Amygladin electrode, 52,214,219 Antibiotics, 95 Antimony pH electrodes, 195 Antipyrylazo III, 40 Arene diazonium salts, 135,139,143 Catechol sensor, 99 Aspartane, 204 Auto and Stat GA-1110 (Daiichi), Autoclavable electrode, 252 Automatic analysis, 281 Automatic titrations, 137 Azo-coupling reactions, 138 Azo dyes, 134,149

Bacteria based electrodes, 275,296 Choline oxidase, 91 Basic azo dyes, 144 Basic triarylmethane dyes, 119 Benzoate electrode, 71 Benzyl pencillinate electrode, 74 Betalike 'pancreas', 241 Beverages, 298

Bilayer membranes, 47 Biochemical oxygen demand, 97 Biocompatability, 55,233 Biological fluids, 285,320 Biomedical applications, 285,309 Biophysiological fluids, 159 Biosensors, 3,192,275,310 Biostater for lactate, 238 Blood, 98,208,226,231,285,319 Blood serum, 87 Bone, 283 Brain fluid, 290 Buffers, metal ion, 172

Calorimetry, 6 Calcium electrode, amperometric for antipyrylazo III, 40 Carbon dioxide sensorsm 49,195,204 245 Carrier type membranes, 29,272 Catalase, 49 Catheter sensors, 54 Cation transport, 30 Cell diagram convention, 169 Cellulose acetate membrane, 28 CHEMFETS, 11 Chemically modified electrodes, 39 Chemiluminescence, 7 Chemoreceptors, 6,316 Cholesterol, 89 Cholic acids, 71 Cholinergic drugs, 76 Chromatographic applications, 302 Cimetidine intermediates, 75 Clark-Lyons electrode, 193 Clark oxygen electrode 47 Clinical analysis, 226,245

Coated wire ISEs, 179 Complex formation type titrations, Gastric juices, 292 Concentration range of enzyme electrodes, 208 Conducting salts, Conductimetric biosensors, 97 Continuous monitoring, 281 Controlled pore glass, 211 Coordination complexes, 282 Copper transport, 34 Creatinine, 210 Crown ethers, 31,35 Crystal violet, 122,144 Cyanide ISEs, 179

Defect theory, 185 Dental materials, 283 Diabetes, 231 Dialysis, 22 Dialysis membrane, 220 Diazines, 127 Diazotization, 134 Diffusion carrier, 51 Dissociations, 282 Drug sensors, 43,70 Dyestuffs, 111

E.coli sensor, 253 Effluents, 301 Electrode behaviour, 181 Electrodialysis, 26 Emulsion membranes, 29 Enamel, 283 ENFETs, 11,96 Environmental applications, 301 Enzyme electrodes, 3,51,77,102,191, Inorganic analysis, 302 275,296,307 Ethanol sensor, 202 Ex vivo monitoring, 231

Fermentors, 248,296 Ferrocene, 179 Ferroceny1(methy1) trimethy1ammonium (FA+), 43 Fibre optics, 7 Fick's laws, 51 Field effect transistors, 11,276 Flavin coenzyme, 197 Flow analysis, 79,281 Fluoride sensor, 100 Foods, 298,320 Fruits, 298

Galactosidase, 217

Gas sensors, 47,50,89,304,307 Glass electrodes, 37,195,303 Glassy carbon electrode, 223 Gluco 20A, 226 Glucoprocessor, 224 Glucose, 193,197,204,210,211,215, 218,226,238,247,249,312 Glucose analysers, 227 Glucose oxidase and sensors, 5,46, 51,59,83,86,196,225,226 Glukometer GKM 01, 226 Glycaemic monitoring, 232 Graphite electrodes for enzymes, 200,219 Graphite hydrophobised, 179

Haemocompatabilitym 56 Hair, 284 Heat measurements, 6 Heparin anti-clotting, 56 Hexamethonium, 43 Hydrogen peroxide electrodes, 196, 224 3-Hydroxy butyrate, 222

Immobilisation of enzymes, 80,84,87
195,206,225,243,276,303,311
Immunoprobes, 5,315 Implantable glucose sensors, 233 Implanted electrodes, 52 In vivo monitoring, 55,228,293,320 Indamine dyes, 127 Indophenols, 127 Industrial applications, 301 Inhibition of enzymes, 225 Insulin deliverym 59 Insulin treatment, 231,238 Interfacial chemistry, 279 Interferences of enzyme electrodes, 223 Intracellular fluid, 290 Iodide ISEs, 195 Ion exchange membranes, 20,29 Ionomer coated electrodes, 44 Ionophores in membranes, 29 Ion-pair formation titrations, 115 Ion-selective electrodes, 36,171 ISFET, 87,276

Juices, 298 Junctions, liquid, 327

Kinetics of electrodes, 46

Kinetics of reactions, 282

Lactate, 97,98,210,211,236
Langmuir-Blodgett films, 49,322
Lecithin, 91
Leucine, 210
L-Leucine-p-nitroanilide, 211
Lipid bilayer membranes, 46
Liquid chromatography of drugs, 102
Liquid crystals, 36
Liquid junction, 161,165,327
Liquid membranes, 28,37,180,267
Liquid membrane electrodes, 70
Living cells in sensors, 5

Nonactin ISE, 223 Non-aqueous media, 302 Nylon net immobilization of enzymes, 207

Operational standards from primary standards, 172
Optical fluids, 290
Optical methods, 7
Ores, 300
Organic analysis, 302
Osmosis, 22,25
Oxazines, 128
Oxidase enzymes, 195
Oxygen sensors, 48,194,204,224,251, 305

Pancreas (artificial), 230
Penicillinase, 225

Macrocyclic ethers, 31 Mechanisms of electrodes, 182,278 Pancreas (artificial), 230 Mechanisms of mercury ISEs, 182 Mediators in enzymes, 197 Medical applications of enzyme electrodes, 226 Medicinal preparations, 297 Membranes, 17 Membrane distillation, 26 Mercury(II) electrodes, 177 Metallocomplex dyes, 148 Metallurgical analysis, 302 Methine dyes, 125,249 Methylene Blue, 129 Michaelis constant, 46,51 Michaelis-Menten constant, 208, 210,211 Microcalorimetry, 77 Microfiltration, 22 Microorganism sensors, 82,85,97 Miles Biostater, 54 Mineralised tissue, 283 Mixed potentials, 109 Muscle fluids, 292 Multienzyme electrodes, 80 Multiple addition, 170

NADH, 200,219,222
Nafion films, 41
Needle type enzyme electrodes, 54
Neostigmine, 43
Nernst type response, 185
Neurosensors, 316
Neurotransmitters, 43
Neural carrier electrodes, 277
Nicotinic acid, 71
Nitro dyes, 116
p-Nitrophenylphosphate, 210
p-Nitrophenylsulphate, 210
Nafion films, 41
Polymeric membranes, Polymeric memb

Penicillinase electrodes, 74,96 Peptides,93 Permeability of membranes, 45 Pervaporation, 28 pH and mercury ISEs, 183 pH and titration sensors, 141 pH effects for enzyme electrodes, 216 pH electrodes, 303 Pharmaceutical analysis, 69 Pharmaceutical preparations, 297, 319 Phencyclidine, 76 Phenols, 97 Phosphate sensor, 100 Phosphatyldilcholine, 91 Phospholipids, 89 Phospholipid bilayers, 47 Photoresponsive crown ethers, 35 Picric acid, 117 Picrolonates, 150 Piezoelectric sensors, 9,325 pIon standardisation, 170 Platelet activity, Polyazetidyne, 208 Polycrystalline electrodes for silver, 178 Polymeric membranes, 28,70 Potentiometric enzyme probes, 194 Potentiometric gas sensors, 50 Potentiometry of dyestuffs, 111 Powder (pressed) electrodes, 178 Primary standards, 172 Protein interference, 55 Protolytic equilibrium, 122 Proteins, 93 Public health applications, 301

PVC electrodes, 267 Pyrocatechol violet, 122 Pyruvate, 210,211,219,239 Surface charge, 58 Surfactant systems, 301 Sweat, 289

Teeth, 283

Quercetin titration, 142 Quinidine, 43 8-Quinolo1, 117 Quinonimine dyes, 126

Radioimmunoassay, 102 Reaction kinetics, 282 Redox probes, 202 Redox probes for enzymes, 195 Redox switching of transport, 35 Reference electrodes, 327 Response times, 213,278 Reverse osmosis, 25 Reversibility of electrodes, 173 Rocks, 300 Rotating disc electrode, 46

Temperature effects, 219 Theory of ISEs, 182, 278 Thermodynamic quantities, 282 Thermodynamics of amalgam electrodes, 161 Thiazine dyes, 129 Tissue fluids, 292 Tissue sensors, 82,98 Titrations, 114,185,267 d-N-Tosyl-L-arginine methyl ester, 211 Transcutaneous oxygen sensing, 29 Transducers, electrochemical, 4 Transport through membranes, 19,30, Triarylmethane dyes, 118 L-Tyrosine, 204

Telemetric glucose monitoring, 232

Saccharomyces cerevisiae, 85 Salicylate, 97,100 Saliva, 289 Selectrode, 179 Selectivity of membranes, 20 Semiconductor sensors, 304 Separations by membranes, 20 Severinghaus electrode, 50 Siderophores, 100 Silanized membranes 209 Silica support, 211 Silver rod coated ISEs, 179 Silver-silver chloride electrode, Silver sulphide/silver iodide electrodes, 178 Soils, 300 Solid state electrodes, 37, 267 Spectrophotometry of drugs, 102

Ultrafiltration, 22 Updike and Hicks electrodes, 193 Uphill transport, 34 Uranyl transport, 35 Urea sensors, 87,210,211,218,239, 242,245.247 Uric acid, 97, 210 Urine, 226,289

Valinomycin membrane, 31,76 Vegetables and vegetation, 298 Vitamins, 97 Voltaic cell, 161

Solvent effects in titrations, 133 Water, 300 Spinal fluids, 290 Stability constant, 172 Stack gases, 300 Standard additions, 170,282 Standard electrode potential, 181

Wash times for enzyme probes, 221 Whole blood, 208,231

Xanthene dyes, 124 Xylene Blue, 120

Standardisation of biofluids, 159 Subcutaneous tissue, 58 Sucrose electrode, 84,210,211 Suga sensors, general, 312 Sulpha drugs, 74

Yellow Springs Glucose Analyser, Yellow Springs Model 25 Analyser,

Sulphite sensors, 101 Sulphophthalein dyes, 123

Surface acoustic wave (SAW) sensors, Zeta potential, 20

9,236

AUTHOR INDEX

Campanella, L., 67

Guilbault, G.G., 3

Longhi, P., 159 Luong, J.H., 3

McDonald, M.B., 17 Mascini, M., 191 Moody, G.J., 265 Mussini, P.R., 159 Mussini, T., 159 Palleschi, G., 191

Radic, N., 177 Rondinini, S., 159

Thomas, J.D.R., 1, 265 Tomasetti, M., 69

Vadgama, P.M., 17 Vytras, K., 111

				~	
Repro	duced with t	the permission	of Pergamon	Press Inc., by	University
Micro	films Inc. Du	plication or res	ale without p	ermission is p	rohibited.
*					

